

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

Petition for Exemption from the

Vehicle Theft Prevention Standard;

JAGUAR LAND ROVER NORTH AMERICA, LLC

AGENCY: National Highway Traffic Safety Administration, NHTSA,
Department of Transportation, DOT.

ACTION: Grant of petition for exemption.

SUMMARY: This document grants in full the Jaguar Land Rover North America LLC's, (Jaguar Land Rover) petition for an exemption of the Jaguar XF vehicle line in accordance with 49 CFR part 543, Exemption from the Theft Prevention Standard. This petition is granted because the agency has determined that the antitheft device to be placed on the line as standard equipment is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Theft Prevention Standard (49 CFR part 541).

DATES: The exemption granted by this notice is effective beginning with model year (MY) 2016.

FOR FURTHER INFORMATION CONTACT: Mr. Hisham Mohamed, Office of International Policy, Fuel Economy and Consumer Programs, NHTSA, W43-437, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590. Mr. Mohamed's phone number is (202) 366-0307. His fax number is

(202) 493-2990.

SUPPLEMENTARY INFORMATION: In a petition dated March 23, 2015, Jaguar Land Rover requested an exemption from the parts-marking requirements of the Theft Prevention Standard (49 CFR part 541) for the MY 2016 Jaguar XF vehicle line. The petition requested an exemption from parts-marking pursuant to 49 CFR Part 543, *Exemption from Vehicle Theft Prevention Standard*, based on the installation of an antitheft device as standard equipment for an entire vehicle line.

Under §543.5(a), a manufacturer may petition NHTSA to grant an exemption for one vehicle line per model year. In its petition, Jaguar Land Rover provided a detailed description and diagrams of the identity, design, and location of the components of the antitheft device for the XF vehicle line. Jaguar Land Rover stated that its XF vehicles will be equipped with a passive, transponder based, electronic engine immobilizer device as standard equipment beginning with the 2016 model year. Key components of its antitheft device will include a power train control module (PCM), instrument cluster, body control module (BCM), remote frequency receiver (RFR), remote frequency actuator (RFA), immobilizer antenna unit (IAU), Smart Key, door control units (DCU), and a visual and audible perimeter alarm system. Jaguar Land Rover also stated that the audible and visual perimeter alarm system will be installed as standard equipment and can be armed with the Smart Key or programmed to be passively armed. Jaguar Land Rover further stated that the siren will sound and the vehicle's exterior lights will flash if unauthorized entry is attempted by opening the hood, doors or luggage compartment. Jaguar Land Rover's submission is considered a complete petition as required by 49 CFR 543.7, in that it meets the general requirements contained in §543.5 and the specific content requirements of §543.6.

Jaguar Land Rover stated that the Smart Key is programmed and synchronized to the vehicle through means of an identification key code and a randomly generated secret code that are unique to each vehicle. Jaguar Land Rover further stated that the immobilizer device is armed automatically when the Smart Key is removed from the vehicle.

Jaguar Land Rover also stated that there are three methods the driver can approach the vehicle and start the engine. Method one is through automatic detection of the Smart Key via a remote frequency challenge response sequence. Jaguar stated that when the driver approaches the vehicle and pulls the driver's door handle (after authentication of the correct Smart Key), the doors will unlock. Specifically, when the ignition start button is pressed, a search to find and authenticate the Smart Key commences within the vehicle interior. If successful, this information is passed by a coded data transfer to the BCM via the Remote Function Actuator. The BCM in turn, will pass the "valid key" status to the instrument cluster, via a coded data transfer. The BCM sends the key valid message to the PCM which initiates a coded data transfer authorizing the engine to start. Method two is accomplished by unlocking the vehicle with the Smart Key unlock button. As the driver approaches the vehicle, the Smart Key unlock button is pressed and the doors will unlock. Once the driver presses the ignition start button, the operation process is the same as method one. Method three is accomplished by using the emergency key blade. If the Smart Key has a discharged battery or is damaged, there is an emergency key blade that can be removed from the Smart Key and used to unlock the doors. When the ignition start button is pressed a search is commenced to find and authenticate the Smart Key within the vehicle. Once the Smart Key is docked in the correct position and the ignition start button is pressed again, the BCM and

Smart key completes a coded data exchange via the IAU. If successful, the BCM passes the valid key status to the instrument cluster, via a coded data transfer. The BCM then sends the key valid message to the PCM which initiates a coded data transfer. If successful, the engine will be authorized to start.

In addressing the specific content requirements of 543.6, Jaguar Land Rover provided information on the reliability and durability of its proposed device. To ensure reliability and durability of the device, Jaguar Land Rover conducted tests based on its own specified standards. Jaguar Land Rover provided a detailed list of the tests conducted (i.e., temperature and humidity cycling, high and low temperature cycling, mechanical shock, random vibration, thermal stress/shock tests, material resistance tests, dry heat, dust and fluid ingress tests). Jaguar Land Rover stated that it believes that its device is reliable and durable because it complied with specified requirements for each test.

Additionally, Jaguar Land Rover stated that its key recognition sequence includes more than a billion code combinations, which include encrypted data that are secure against copying. Jaguar Land Rover also stated that the coded data transfer between its modules use a unique secure identifier, a random number and a secure public algorithm. Jaguar Land Rover further explained that since its XF vehicle line will utilize push button vehicle ignition, it does not have a conventional mechanical key barrel and therefore believes that forcibly bypassing the key-locking system would be virtually impossible.

Jaguar Land Rover also stated that the current generation Jaguar XF vehicle line produced since MY 2009, is installed with an engine immobilizer device as standard equipment. Jaguar Land Rover noted that since the current generation Jaguar XF vehicles have only been available with an engine immobilizer, there is no comparative data available for the XF vehicle line without an immobilizer.

However, Jaguar Land Rover stated that the immobilizer is substantially similar to the antitheft device installed on the Jaguar XK, Jaguar XJ, Land Rover LR2, Land Rover Range Rover Evoque, and Land Rover Discovery Sport vehicle lines previously granted an exemption by the agency. Jaguar Land Rover stated that based on the MY 2012 final theft data published by NHTSA, the Jaguar Land Rover vehicles equipped with immobilizers had a theft rate of 0.76 per thousand vehicles, comparatively below NHTSA's overall theft rate of 1.13 thefts per thousand vehicles for MY 2012 passenger vehicles stolen in CY 2012. The theft rates for the Jaguar XK, XJ, Land Rover Evoque, and Land Rover LR2 using an average of 3 MY's data are 1.0803, 0.9199, 0.5501 and 0.4141, respectively. Jaguar Land Rover believes these low theft rates further demonstrate the effectiveness of its immobilizer device. Additionally, as further evidence of the effectiveness of its immobilizer device, Jaguar Land Rover submitted a Highway Loss Data Institute news release (July 19, 2000) showing an average reduction in theft losses of about 50 percent for vehicles installed with an immobilizer device.

Based on the supporting evidence submitted by Jaguar Land Rover on its device, the agency believes that the antitheft device for the XF vehicle line is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Theft Prevention Standard (49 CFR 541). The agency concludes that the device will provide the five types of performance listed in §543.6(a)(3): promoting activation; attracting attention to the efforts of an unauthorized person to enter or move a vehicle by means other than a key; preventing defeat or circumvention of the device by unauthorized persons; preventing operation of the vehicle by unauthorized entrants; and ensuring the reliability and durability of the device.

Pursuant to 49 U.S.C. 33106 and 49 CFR 543.7 (b), the agency grants a petition for exemption from the parts-marking requirements of Part 541 either in whole or in part, if it determines that, based upon substantial evidence, the standard equipment antitheft device is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of part 541. The agency finds that Jaguar Land Rover has provided adequate reasons for its belief that the antitheft device for its XF vehicle line is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Theft Prevention Standard (49 CFR part 541). This conclusion is based on the information Jaguar Land Rover provided about its device.

For the foregoing reasons, the agency hereby grants in full Jaguar Land Rover's petition for exemption for the Jaguar Land Rover XF vehicle line from the parts-marking requirements of 49 CFR Part 541. The agency notes that 49 CFR part 541, Appendix A-1, identifies those lines that are exempted from the Theft Prevention Standard for a given model year. 49 CFR part 543.7(f) contains publication requirements incident to the disposition of all part 543 petitions. Advanced listing, including the release of future product nameplates, the beginning model year for which the petition is granted and a general description of the antitheft device is necessary in order to notify law enforcement agencies of new vehicle lines exempted from the parts-marking requirements of the Theft Prevention Standard.

If Jaguar Land Rover decides not to use the exemption for this line, it must formally notify the agency. If such a decision is made, the line must be fully marked according to the requirements under 49 CFR parts 541.5 and 541.6 (marking of major component parts and replacement parts).

NHTSA notes that if Jaguar Land Rover wishes in the future to modify the device on which this

exemption is based, the company may have to submit a petition to modify the exemption. Part 543.7(d) states that a Part 543 exemption applies only to vehicles that belong to a line exempted under this part and equipped with the antitheft device on which the line's exemption is based. Further, Part 543.9(c)(2) provides for the submission of petitions "to modify an exemption to permit the use of an antitheft device similar to but differing from the one specified in that exemption."

The agency wishes to minimize the administrative burden that Part 543.9(c)(2) could place on exempted vehicle manufacturers and itself. The agency did not intend in drafting Part 543 to require the submission of a modification petition for every change to the components or design of an antitheft device. The significance of many such changes could be *de minimis*. Therefore, NHTSA suggests that if the manufacturer contemplates making any changes, the effects of which might be characterized as *de minimis*, it should consult the agency before preparing and submitting a petition to modify.

Authority: 49 U.S.C. 33106; delegation of authority at 49 CFR 1.50.

Under authority delegated in 49 CFR part 1.95.
Raymond R. Posten,
Associate Administrator for Rulemaking.

4910-59-P

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